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10/821,851	04/12/2004	Kang-wook Chun	1349.1042D	1723

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EXAMINER	
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ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/821,851	CHUN, KANG-WOOK	
	Examiner	Art Unit	
	SHAWN AN	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) *1-28 and 42* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/12/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Applicant's election to restriction requirement

1. Applicant's election of claims 29-41 of Group IV without traverse as filed on 4/14/08 has been acknowledged. Furthermore, non-elected claims 1-28 and 42 are now considered as withdrawn claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 29, 33, 35, and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (6,167,084) in view of Zhang et al (6,181,711 B1).

Regarding claims 29 and 35, Wang et al discloses a data encoder to encode first and second data, where the first data is encoded at a first bit rate below a threshold bit rate, the encoder comprising:

a data analyzer (Fig. 6, 610) to analyze the received first data and to determine the first bit rate (T_1) and a second bit rate (T_2);

a first data encoder (Fig. 6, 620; Fig. 2) to encode the first data (video) at the first bit rate; and

a combiner unit (660) to combine the encoded first data and the encoded second data (630) to form a combined data to be output at the threshold/target bit rate (col. 8, lines 25-36 and 41-42; col. 14, lines 15-67; col. 2, lines 43-54 and 62-65).

Wang et al does not particularly disclose a second data formatter to format the second data in accordance with the second bit rate, and the combiner unit to combine the encoded first data and the formatted second data to form the combined data to be output at the threshold bit rate.

However, Zhang et al teaches system and method for transporting compressed video and data bit stream over a communication channel comprising:

a second data formatter (Fig. 2A, 258) to format the second data in accordance with a transmission bit rate, and the combiner unit (204) to combine the encoded first data (252) and the formatted second data to form the combined data to be output at the transmission bit rate to allow satisfactory transmission of the bit stream to the transmission facility (col. 6, lines 20-55; abs.).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a data encoder to encode first and second data as taught by Wang et al to incorporate Zhang et al's teaching as above so that the second data formatter formats the second data in accordance with Wang's second bit rate, and the combiner unit combines the encoded first data and the formatted second data to form the combined data to be output at the threshold bit rate to allow satisfactory transmission of the bit stream to the transmission facility.

Regarding claim 33, Zhang et al discloses a transport stream multiplexer (Fig. 5, 528) that multiplexes the encoded first data (520) and second data (524) to produce a transport stream.

Therefore, by virtue of combination, it would have been considered obvious for the transport stream multiplexer to multiplex Wang et al's encoded first data and the formatted second data to produce a transport stream.

Regarding claim 37, Zhang et al discloses the data analyzer determining the first bit rate in accordance with characteristics of the first data detected by the first data encoder (col. 8, lines 63-67; col. 9, lines 1-9).

Regarding claim 38, Zhang et al discloses the first data being video data (Fig. 2, 205), and the characteristics detected by the first data encoder (620) comprise one of quantizing levels (parameters) of the video data, motion vectors of the video data, and an average image quality of the video data.

Regarding claims 39-40, Wang et al discloses a user data portion (608) for communicating with the rate control processor and a buffer to receive and store the encoded first data (670), and being able to handle pre-compressed data that is at either

a constant bit rate or variable bit rate, along with uncompressed video data (col.1, lines 64-67). Zhang et al teaches a second data formatter (Fig. 2A, 258) to format the second data in accordance with a transmission bit rate.

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing Wang et al's disclosure as above to incorporate Zhang et al's teaching as above so that the first data comprises a user data portion, wherein the formatted second data is inserted into the user data portion of the encoded first data, and to output the combined data at a constant bit rate to allow satisfactory transmission of the bit stream to the transmission facility.

Regarding claim 41, Wang et al discloses the first data comprises video data (Fig. 2, 205), and the first data encoder comprises: an N.times.N converting portion (222) to convert the video data into data within a frequency range, a quantizer (225) to quantize the data within the frequency range received from the N.times.N converting portion, a variable field encoding portion (230) to variable field encode the quantized data to produce the encoded video data stored in the buffer, and motion estimating (220) and compensating (260) portions to motion estimate and compensate the quanized data.

4. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al and Zhang et al as applied to claim 29 above, and further in view of Applicant's admitted prior art.

Regarding claim 30, Wang et al discloses third data (Fig. 6, Program 2).

Wang et al and Zhang et al do not seem to particularly disclose the second data formatter further formatting the third data at a constant third data bit rate.

However, Applicant's admitted prior art teaches a conventional general broadcasting signal having a third data (DATA) at a constant third data bit rate (Figs. 1A, 1C, see Data).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a data encoder to encode first and second data as taught by Wang et al to incorporate Applicant's admitted prior art teaching as above so that

Zhang's second data formatter further formats the third data at the constant third data bit rate to allow satisfactory transmission of the bit stream to the transmission facility.

Regarding claim 31, since the second data formatter (Fig. 2A, 258) formats the second data in accordance with a transmission bit rate and Applicant's admitted prior art have a third data (DATA, see above) at a constant third data bit rate, it is considered obvious for the Zhang's second data formatter to have different formats for second and third data.

Regarding claim 32, Zhang et al teaches an input data service (Fig. 2A, 258, servicing Data input). Furthermore, combination of Zhang et al and Applicant's admitted prior art would provide the second and third data having a same format.

5. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al and Zhang et al as applied to claim 29 above, and further in view of Knutson et al (6,788,710 B1).

Regarding claim 34, Wang et al and Zhang et al do not seem to particularly disclose the transport stream multiplexer further performing 8-vestigial band modulation to modulate the transport stream.

However, Knutson et al teaches auxiliary data insertion in a transport stream comprising performing 8-vestigial band modulation to modulate the transport stream as simple and efficient means to insert auxiliary/additional information into MEPG-2 compatible data streams (Fig. 2, 13; Fig. 3, see 8-VSB format; col. 2, lines 16-19).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a data encoder to encode first and second data as taught by Wang et al to incorporate Knutson's teaching as above so that the transport stream multiplexer further performs 8-vestigial band modulation to modulate the transport stream as simple and efficient means to insert auxiliary/additional information into MEPG-2 compatible data streams.

6. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al and Zhang et al as applied to claim 35 above, and further in view of Kato et al (5,719,986).

Regarding claim 36, Wang et al discloses the first data being video data (Fig. 2, 205), and the data analyzer (Fig. 6, 610) determining the first bit rate in accordance with a complexity (605) of the video data.

Wang et al and Zhang et al do not seem to particularly disclose the data analyzer determining the first bit rate in accordance with motion information of the video data calculated in accordance with differences between screens and degrees of information based upon the calculated differences.

However, Kato et al teaches video signal encoding method comprising a data analyzer (Fig. 3, 32) determining a bit rate in accordance with motion information of video data calculated in accordance with differences between screens and degrees of information based upon the calculated differences (Inter-Frame Information Analysis) in which encoded data of uniform and superior quality may be produced and input signals may be encoded substantially on the real-time basis (Fig. 3, 32; col. 18, lines 65-67; col. 19, lines 1-36; col. 2, lines 8-14).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a data encoder to encode first and second data as taught by Wang et al to incorporate Kato et al's teaching as above so that the data analyzer determines the first bit rate in accordance with motion information of the video data calculated in accordance with differences between screens and degrees of information based upon the calculated differences in which encoded data of uniform and superior quality can be produced and input signals can be encoded substantially on the real-time basis.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A. Ramaswamy et al (6,888,840 B1), Output symbol rate control in a packet transport rate conversion system.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn An* whose telephone number is 571-272-7324.

9. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/SHAWN AN/
Primary Examiner, Art Unit 2621
5/19/08